REMARKS

Claims 1-15 are pending in this application, of which claim 1 has been amended. No new claims have been added.

The Examiner has withdrawn the indication of allowability set forth in the previous action and has rejected claims 1-15 under 35 U.S.C.§103(a) as unpatentable over JP2004-045304 to Yusuke et al. (U.S. Patent 7,138,646 to Hashimoto et al. supplied by the Examiner as the English translation of Yusuke et al. hereafter "**Hashimoto et al.**") in view of JP2000-105111 to Makoto Miyazaki et al. (hereafter "**Miyazaki et al.**").

Hashimoto et al. discloses a light receiving device with controllable sensitivity and spatial information detecting apparatus with a charge discarding device which uses the light receiving device. The spatial information detecting apparatus comprises at least one photoelectric converter for receiving a light provided from a space, into which the light intensity-modulated by a predetermined modulation signal is being irradiated, and generating amounts of electric charges corresponding to an intensity of received light; a charge discarding portion having a first electrode for removing dispensable charges from the electric charges generated by the photoelectric converter according to a voltage applied to the first electrode; a charge storage portion for storing signal charges from the electric charges generated by the photoelectric converter; a control circuit for controlling the voltage applied to the first electrode at a timing synchronized with a period of the modulation signal to change a ratio of the signal charges stored in the charge storage portion to the electric charges generated by the photoelectric converter; a charge ejector for outputting the signal charges from the charge storage portion; and an analyzer for determining spatial information from an output of the charge ejector.

Miyazaki et al. discloses a 3-D device comprising: a light projecting means which emits detecting light on a body; a scanning means for optically scanning the body by deflecting the emitting direction of the detecting light; and having a 2-D projecting surface, a projecting device which photoelectrically converts by accepting the detecting light which has been reflected by the body; a control means which controls so as to output a plurality of photoelectric conversion signals whose storage period for charging every pixel is mutually different; a selection means

which selects, among the plurality of photoelectric conversion signals, photoelectric conversion signals which are not saturated.

Neither reference teaches, mentions or suggests the following elements recited in claim 1 of the instant application:

> 1. a sensor control stage which controls to synchronize each integration period of said photosensitive units with a specific phase of said modulation signal, and pick up each electric charge generated and integrated in said light detecting element from the light detecting element after a detection period corresponding to one or more periods of said specific frequency;
>
> 2. said detection period includes different detection periods and said image construction stage calculates a distance value for each image element in said range image based on each electric charge picked up after a specific detection period of said different detection periods by said sensor control stage; and
>
> 3. said specific detection period being one of one or more detection periods during which said light detecting element does not reach saturation, and being one detection period during which a value related to the quantity of light received from said object space becomes maximum of that of the one or more detection periods.

As shown in FIGS. 1, 2 and 10, the sensor control stage (14) changes each integration period (Ti) of neighboring photosensitive units (13) corresponding to each image element in the range image to an integration period corresponding to a different phase of each specific phase (each of phases corresponding to Q_0, Q_1, Q_2, Q_3) every specific detection period (T_{L11}, T_{L12}, T_{L21} and T_{L22}).

Specifically, the sensor control stage (14) changes, for example, integration periods corresponding to Q_0, Q_2, Q_1, Q_3 to integration periods corresponding to Q_2, Q_0, Q_3, Q_1, respectively.

In addition, when calculating a (each) distance value for each image element in the range image, the image construction stage (15) calculates a (each) distance value from each electric charge obtained by integrating each electric charge of specific detection periods (T_{L11}, T_{L12}, T_{L21} and T_{L22}) every integration period corresponding to said each specific phase (each of phases corresponding to Q_0, Q_1, Q_2, Q_3).

These features ensure the reliability of (each) distance value obtained from each pixel consisting of neighboring photosensitive units (see page 36, lines 21-23).

Neither of the cited references teaches, mentions or suggests these features.

Accordingly, claim 1 has been amended to recite this distinction, as the 35 U.S.C.§103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-15, as amended, are in condition for allowance, which action, at an early date, is requested.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 04-1105.

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Respectfully submitted,

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